

The Fermi Gamma-ray Burst Monitor (GBM) Terrestrial Gamma-ray Flash Catalog
Intended for Energetic Radiation from Thunderstorms and Lightning

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The detection rate of of the Fermi Gamma-ray Burst Monitor (GBM) for Terrestrial Gamma-ray Flashes (TGFs) has been improved in several steps from the initial rate of approximately 11 per year to approximately 800 per year. A major improvement started in 2010 July with the downloading of individual photon data when Fermi was over selected geographic regions. This individual photon data is searched offline at high temporal resolution, resulting in the detection of shorter and weaker TGFs. Since 2012 November 26 individual photon data has been downloaded for the entire orbit, excluding the South Atlantic Anomaly region for which the detectors are off – by the time of the meeting this will provide a full year of unbiased observations with the new technique. One-third of the GBM TGFs are associated with sferics detected with the World Wide Lightning Location Network (WLLLN). GBM now has the largest catalog of TGFs, including a large number with locations from WLLLN (≈ 10 km uncertainty). The catalog is available for correlations with other observations and meteorological studies.